



**UNITED STATES DEPARTMENT OF COMMERCE**  
**Patent and Trademark Office**

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
09/617,001	07/14/00	MELSON	253WBN

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PM82/0725

EXAMINER  
STEPHENSON, D

ART UNIT	PAPER NUMBER
3673	3

DATE MAILED: 07/25/01

**Please find below and/or attached an Office communication concerning this application or proceeding.**

**Commissioner of Patents and Trademarks**

**Office Action Summary**

Application No.

09/617,001

Applicant(s)

MELSON ET AL.

Examiner

Daniel P Stephenson

Art Unit

3673

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claims \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved.
- 12) ☒ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. § 119**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

**Attachment(s)**

- 15) ☒ Notice of References Cited (PTO-892)
- 16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 17) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 18) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_.
- 19) ☐ Notice of Informal Patent Application (PTO-152)
- 20) ☐ Other: .

Art Unit: 3673

## DETAILED ACTION

### *Oath/Declaration*

The oath or declaration is defective. A new oath or declaration in compliance with 37 CFR 1.67(a) identifying this application by application number and filing date is required. See MPEP §§ 602.01 and 602.02.

The oath or declaration is defective because:

The sole/joint inventors did not sign and date the oath or declaration.

>Note – Ellen Melson, holder of general power of attorney for first-named inventor,

Arthur F. Melson, has not signed the document.

### *Claim Rejections - 35 USC § 112*

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 9 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The term "on the order of" in claim 9 is a relative term which renders the claim indefinite. The term "on the order of" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. Some standard for measuring the degree intended should be defined in the specification as per *Ex parte Oetiker*, 23 USPQ2d 641.

Art Unit: 3673

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 2, 5, and 6 are rejected under 35 U.S.C. 102(b) as being anticipated by Bodine Jr. Bodine Jr. (Figs. 1 and 2, col. 1 lines 34-70, col. 2 lines 1-21, col. 5 lines 11-36, and col. 6 lines 9-20) discloses a system for stimulation of petroleum from a well, in which he uses an electro-acoustic transducer (22) placed inside a perforated well casing (10). Said transducer (22) is capable of emitting a narrow circular band of high-energy impulses that expand laterally from said well casing. The transducer is maintained at a pressure equal to that at its horizontal proximity since it is open to the fluid within the well. The transducer can emits pulses throughout the range of 2 to 3 degrees after it is energized at a varying frequency depending on the operation at hand, using a frequency modulator (54).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 3, 4, and 7-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bodine Jr. in view of Plambeck. Bodine Jr. (Figs. 1 and 2, col. 1 lines 34-70, col. 2 lines 1-21, col. 5 lines 11-36, and col. 6 lines 9-20) discloses a system for stimulation of petroleum from a

Art Unit: 3673

well, in which he uses an electro-acoustic transducer (22) placed inside a perforated well casing (10). The transducer can emits pulses throughout the range of 2 to 3 degrees after it is energized at a varying frequency depending on the operation at hand, using a frequency modulator (54).

Bodine Jr. does not disclose a transducer that comprises a plurality of axially aligned, circular transducer elements, which are made of a ceramic material, which are contained within a pressure-controlled housing. Plambeck (Figs. 1, 4, and 5, col. 1 lines 55-68, col. 2 lines 1-10 and 36-40, col. 3 lines 19-63, col. 4 lines 55-68, and col.5 lines 1-27) discloses a transducer assembly (40, 42, 44) contained within a pressure-controlled housing (66) that comprises axially aligned, circular transducer elements, which are made of a ceramic material. It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the transducer elements of Plambeck in the petroleum stimulation system of Bodine Jr. The motivation for doing so lies in the fact that the transducer of Plambeck provides for pressure control, to prevent cavitation of the surrounding liquid and to a prevent collapse of the housing.

### *Conclusion*

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Kompanek et al. and Phillips both disclose transducers, which are similar to the transducer of the current application. Joseph discloses a system of ultra-sonic production using similar numerical values as those presented in the current application.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel P Stephenson whose telephone number is (703) 605-4969. The examiner can normally be reached on 7:30 - 5:00 M-TH and every other Fri..

Art Unit: 3673

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David J. Bagnell can be reached on (703) 308-2151. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305-7687 for regular communications and (703) 305-7687 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 306-4180.

DPS  
July 23, 2001

  
**DAVID BAGNELL**  
**SUPERVISORY PATENT EXAMINER**  
**TECHNOLOGY CENTER 3600**